



# Protecting and Restoring Coral Reefs

**C**oral reefs are among the most biologically productive and diverse ecosystems in the world. This diversity supports thriving tourism and fishing industries, which in turn sustain billions of dollars in economic activity each year. Coral reefs are found in U.S. waters of Florida, Hawaii, the Gulf of Mexico, Puerto Rico, U.S. Virgin Islands, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. These U.S. reef areas cover over 7,500 square miles, more than 10% of the world's coral reefs. Many of these coral reef ecosystems are directly and indirectly threatened by human activity.

The U.S. Coral Reef Task Force (Task Force) was established by Executive Order in 1998. In 2000, the Task Force developed a National Action Plan to Conserve Coral Reefs, which serves as the nation's blueprint for reversing the worldwide decline and loss of coral reef ecosystems. As a steward of U.S. marine resources, as co-chair of the Task

## Coral Reef Valuation Study

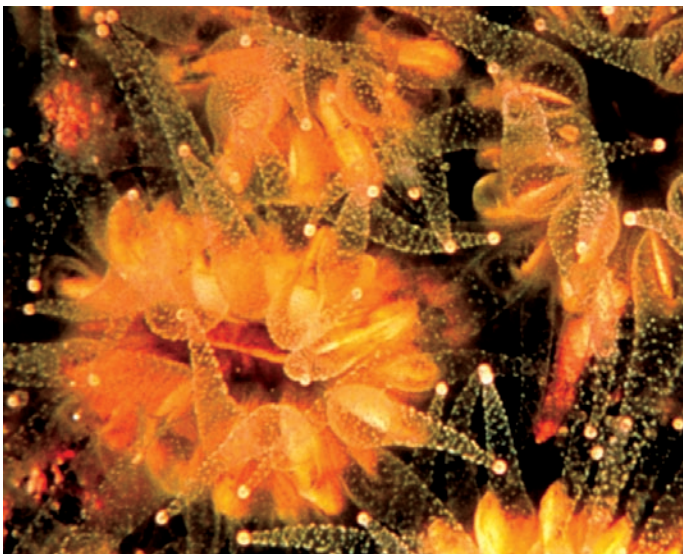
Greater understanding of and management attention to the social and economic value of coral reefs are critical to the long-term success of all coral reef management strategies. Working with local and federal partners, OR&R is researching how the public values coral reef protection and management in Hawaii. This information will help Hawaii's coastal managers develop effective coral reef management plans and educators develop targeted educational material that address citizen concerns and values.

Force, and as directed by the Coral Reef Conservation Act of 2000, the National Oceanic and Atmospheric Administration (NOAA) has the expertise and responsibility to conserve coral reef ecosystems. NOAA's coral conservation efforts are realized primarily through its Coral Reef Conservation Program (Coral Program). Under this program, NOAA partners with scientific, private, government, and nongovernmental organizations at the local, federal, and international levels to address conservation actions laid out in the National Action Plan to Conserve Coral Reefs.

Within NOAA, the Office of Response and Restoration (OR&R) supports national coral reef conservation goals by performing priority actions ranging from national-level management and coordination to local-level product development, capacity building, and information exchange. OR&R is—

## Providing Leadership and Coordination

U.S. Coral Reef Task Force activities, including NOAA Coral Program projects, account for more than \$70 million per year. These activities are carried out by a variety of NOAA offices, federal agencies, state, commonwealth, and territorial governments, and nongovernmental organizations. As a result, national coral reef conservation efforts require partnering and coordinating across numerous institutions and geographic locations. OR&R fulfills this requirement for the Task Force and the NOAA Coral Program by leading and coordinating collaborative strategic planning, program



development, implementation, evaluation, and reporting. OR&R unites expertise across NOAA and other agencies in a coordinated, comprehensive approach that maximizes on-the-ground results.

## Reducing Vessel Impacts

Hundreds of vessels strike U.S. coral reefs each year, injuring these ecosystems by physically destroying habitat, releasing pollutants, and entrapping wildlife. Vessels are often abandoned on the reef, prolonging the impacts. OR&R works with federal, state, commonwealth, and territorial partners to conduct field surveys, assess legal frameworks, locate potential sources of funding, identify and develop removal plans for high-priority vessels, and build local capacity to reduce vessel impacts. To date, OR&R and its partners have developed the National Abandoned Vessel Database, removed nine grounded fishing vessels threatening coral ecosystems in American Samoa, and conducted management-focused vessel grounding workshops in Guam and Hawaii.

## Reducing Impacts of Hazardous Releases

The coral reefs of Hawaii, Florida, American Samoa, the Commonwealth of the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands are home to more than 30 hazardous waste sites. These jurisdictions reported approximately 800 oil spills in aquatic environments in 2001. Chemicals such as oil and ammonia can impede

coral reproduction, growth, and survival, while hazardous substances such as PCBs and other persistent contaminants can degrade fish and shellfish that depend on the reef ecosystem, posing a threat to the marine food chain and human uses. OR&R helps local managers prevent and minimize hazardous material impacts by providing guidelines, tools, and training to track and predict spill movement; identifying and protecting sensitive ecosystems; assessing ecological risk; and cleaning up impacted areas. To date, OR&R has produced Environmental Sensitivity Index (ESI) atlases and performed contingency planning training for Puerto Rico, the U.S. and British Virgin Islands, and Hawaii. ESI atlases and training will soon be completed for American Samoa as well. OR&R has also published three oil spill response guides: *Oil Spills in Coral Reefs*, *Oil Spills in Mangroves*, and *Oil Spills and Sea Turtles*.

## Strengthening Damage Assessment and Restoration

Collaborating with local partners, OR&R assesses damage to coral reefs caused by hazardous material spills, vessel groundings, boat traffic, and anchor damage, then implements projects to restore reef function. In the Florida Keys National Marine Sanctuary alone, roughly 600 known vessel groundings occur each year in coral reef ecosystems. OR&R's Restoration and Assessment of Coral Reef Ecosystems program has conducted over 135 field assessments in the sanctuary and is working to restore many of the assessed sites. Through training programs, OR&R also builds local capacity to use field-based damage assessment tools and technologies and to implement restoration projects.

## Additional Information

### Visit:

<http://response.restoration.noaa.gov>

<http://www.coralreef.noaa.gov>

<http://www.coris.noaa.gov>

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